

Checking Geonor Sensor for Loose Wiring

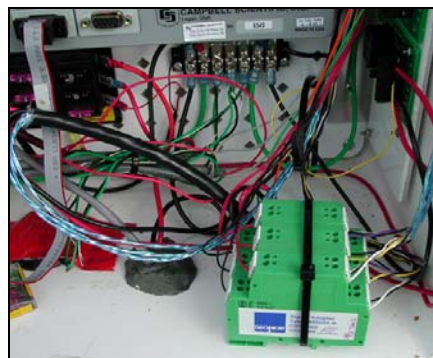
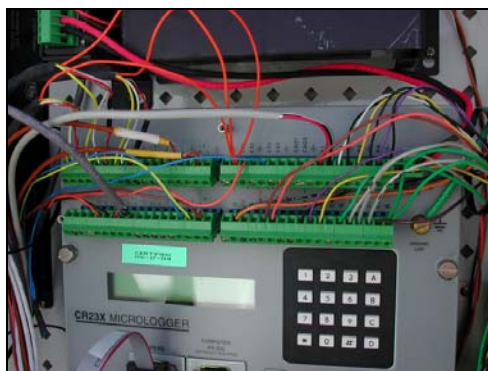
1. Open the door to the Control Box (Key may be needed). An open door is recorded in the data to indicate a site visit.



The sensor at this site that is not working correctly is SENSOR _____.

2. To view the signal from the Geonor sensors, Key * 6 88A on the keypad of the Datalogger. TrueHz 1 and TrueHz 2 will be displayed. To view TrueHz 3, key A on the keypad. The reading displayed will be the frequency measured for sensors 1, 2, and 3. These frequencies should be between 1000 and 3000, and all should be within 30 Hz of each other. If the reading is zero for any sensor, it is not working. The reason could be a loose connection. This instruction sheet is to check all the connections and return the malfunctioning sensor to proper operation.
3. The Geonor sensors are wired into the Datalogger on the upper right connection strip at locations P2, P3, and P4. P2 is sensor 1, P3 is sensor 2, and P4 is sensor 3. The wires from these locations go to three green interface cards located at the bottom of the enclosure. The wires for each sensor are different colors, and the signal wire connected to it can identify the interface card associated with each sensor. For example, if a white wire is connected to P2, the interface card with the white wire is also for sensor one. The color code for each sensor is kept the same from the sensor to the Datalogger. Most sites use white for sensor 1, yellow for sensor 2, and purple for sensor 3. However, some of the oldest sites use a different color scheme. By looking at P2, P3, and P4 the color scheme for this site can be determined.

A photo of the enclosure shows the upper right connection strip and the green interface cards in the bottom.



4. Each interface card is also connected to 12 volts on the lower right terminal strip on the Datalogger. The wiring of the interface card is labeled on each end, and is as follows:
 - A - Sensor positive, from cable entering the enclosure bottom
 - B - Sensor negative, from cable entering the enclosure bottom
 - C - 12 volts on the Datalogger
 - D - There is no D
 - E - Datalogger signal input, P2 for sensor 1, P3 for sensor 2, and P4 for sensor 3
 - F - Ground of the Datalogger
 - V - Not used
5. To check the connections, take a small flat bladed screwdriver and tighten all the connections. Pull gently on each wire to confirm the connection is tight. This includes the signal and power connections on the Datalogger, and all connections on the interface card.
6. If tightening the connections on the interface card or the Datalogger for the sensor having the problem returns the frequency displayed on the panel to a correct reading, the repair is complete. Go to the end of this instruction sheet, and return the Datalogger to Log mode by keying * 0 on the keypad.
7. If the display continues to read incorrectly, the problem may be in the gauge. Follow the next set of instructions to remove the gauge cover and check the connections at the sensor.
8. Slowly release latches on the Precipitation Gauge Cover and pin in the up position. (Caution: the latches flip with a spring action and will hurt if they hit your fingers.)



9. Add a spacer to hold the cover up about two inches, allowing enough space to unplug the internal wire connector inside.



10. Locate the heater cabling and unplug. The location of the heater plug is in line with the sealed hole used to pass the heater wires from the outside heater to the inside of the housing.



11. Remove the cover noting the general position for replacement.
12. Each sensor has a green surge suppression card associated with it. The card for each sensor can be identified by the color of the signal wires connected to it. Below is a picture of the surge suppression card. Check each connection for tightness. There are two connections for the sensor wires and two connections for the signal cables going to the Datalogger.



13. Reconnect the heater plug. Replace the cover. Be sure when replacing the cover that the wires **do not** touch the suspended bucket and associated mounts. It may be necessary to slightly rotate the cover as it closes to lay the wires in place below the bucket. **Secure the latches.**



Before closing the enclosure, return the Datalogger to Log mode by keying * 0 . This is extremely important. Verify the Datalogger is in Log mode by confirming the display shows:

LOGGING Table 1,2

14. Close the Control Box door and lock.

